

Hi Folks,

Precipitation returned to part of the State over the past week. Figure 1 shows the map of 7-day observed precipitation from the National Weather Service California Nevada River Forecast Center (CNRFC). Mountainous areas received the most precipitation and distribution was Statewide, but accumulations continue to be less than the average rate of gain we would expect for this time of year. In Davis at my location(YL-1 on CoCoRaHS) I have only recorded 0.13 inches since the beginning of the calendar year. Average accumulation would be closer to 6 inches for my location.

### CNRFC Area Observed Precipitation

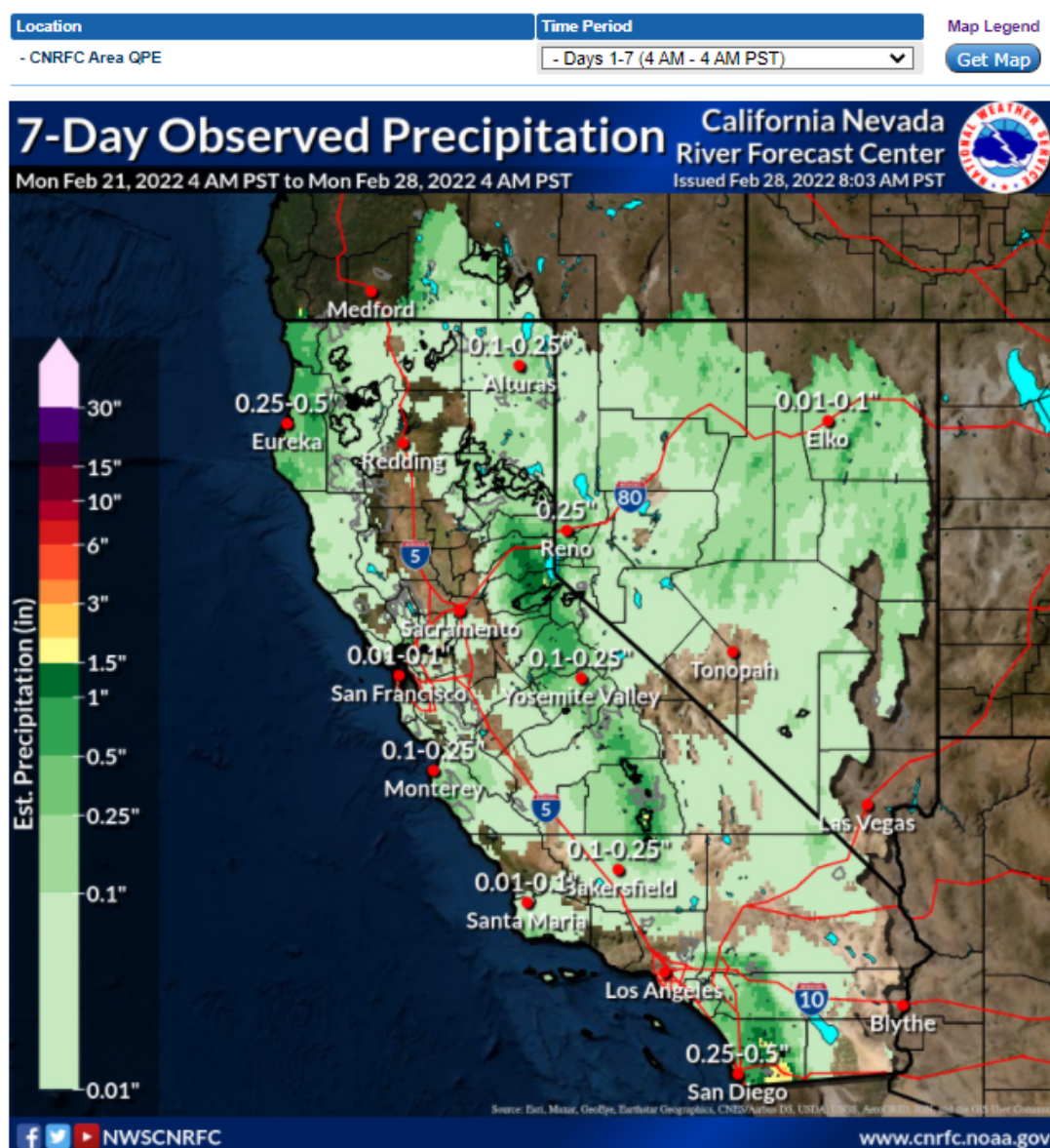


Figure 1. CNRFC map of observed precipitation from 2/21/22 to 2/28/22.

As an aside, CoCoRaHS is a citizen science precipitation observing network (<http://www.cocorahs.org>) which is run out of Colorado State University. The goal of the program is to gain greater spatial measurement of daily precipitation totals which can be helpful as new patterns and extremes in precipitation are experienced.

The next six days also have precipitation in the forecast as shown in the CNRFC forecast precipitation map shown in Figure 2. Accumulations are greater than the past week and spatial coverage is nearly statewide. Precipitation onset for this week's storm starts on Wednesday on the North Coast and then expands across the State on Thursday. Showers in terrain-forced regions continue Friday and Saturday.

### CNRFC Area Precipitation Forecast

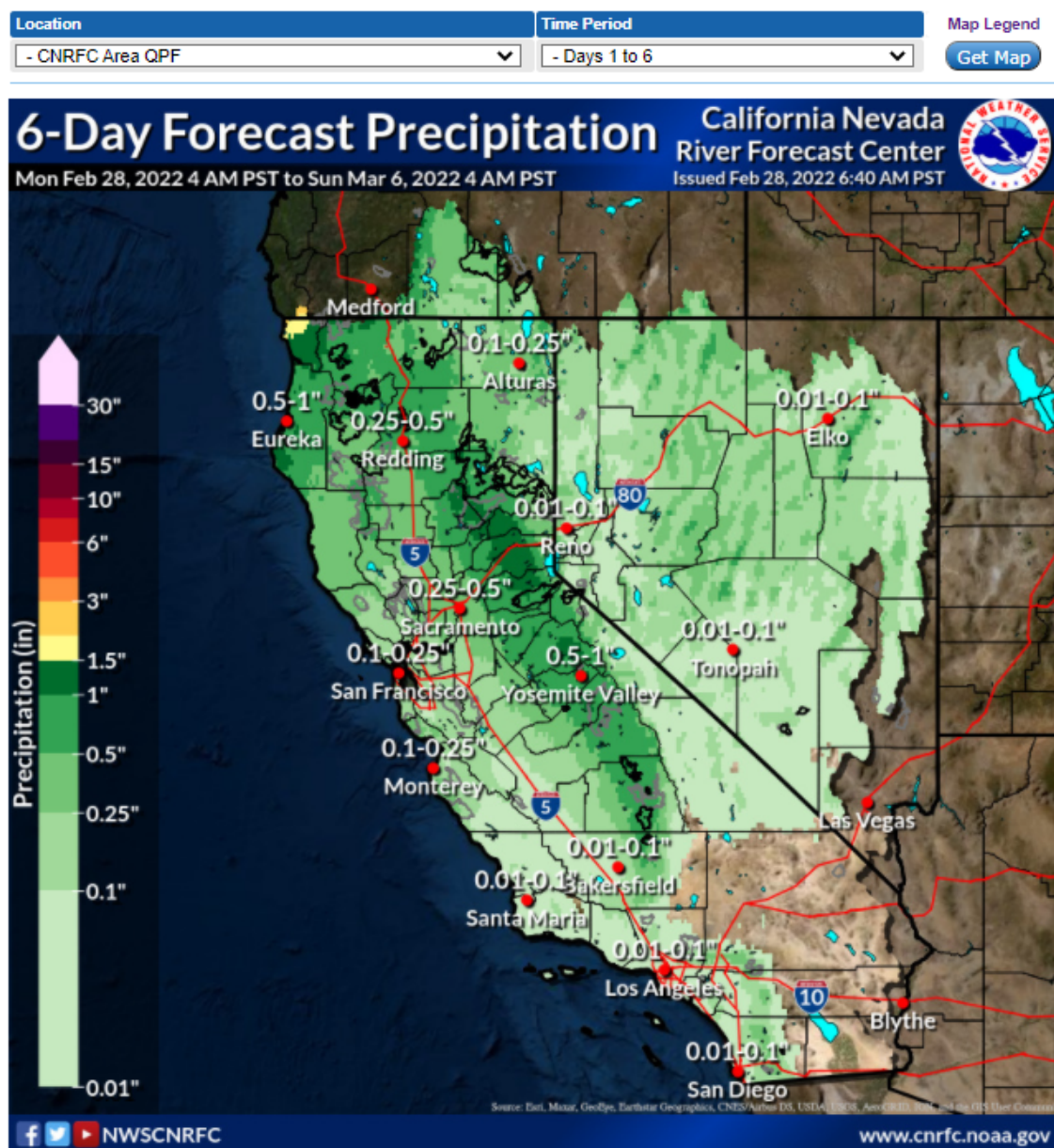


Figure 2. CNRFC map of forecast precipitation from 2/28/22 to 3/6/22.

Looking ahead to week 2, the high pressure remains slightly shifted to the west enabling storm systems to drop out of the Gulf of Alaska. Some of them will come down over land creating drier, north wind conditions while others look to come down over the Pacific Ocean bringing some precipitation to the State. There is likely to be a lot of change as a small difference in east/west location of the high pressure and the storm systems leads to very different outcomes. The systems dropping out of the Gulf of Alaska will bring cooler air so the expectation is for the first half of March to have below average temperatures. This weather pattern also tends to exclude atmospheric river (AR) storms from bringing heavy precipitation to California as shown in the AR landfall tool from the Center for Western Weather and Water Extremes (CW3E) where no AR activity is forecast for California for the first 2 weeks of March except for the potential for a few hours associated with this week's precipitation.

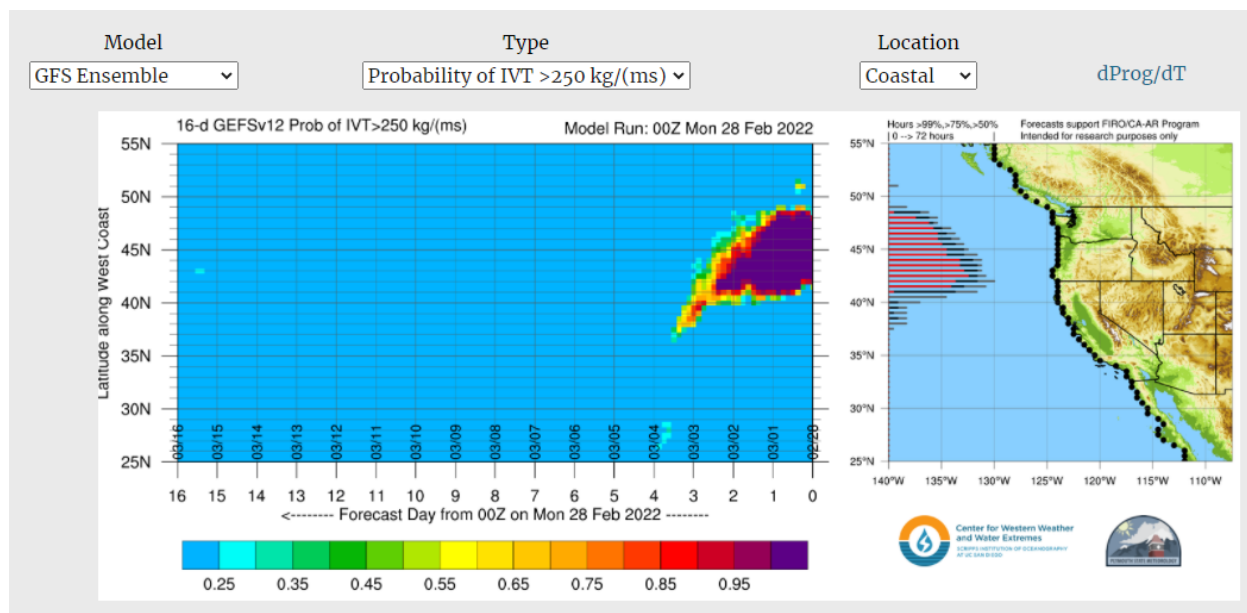


Figure 3. CW3E AR landfall tool showing this week's AR activity in purple (all the forecast models agree on AR activity) and then no activity (light blue coloring) afterward. Forecast extends to 3/16/22.

NOAA's Climate Prediction Center updated the March outlook for precipitation, and it is shown in Figure 4. The outlook is favoring above average conditions for the far north of the State. This would suggest that the high pressure stays far enough west that the storms impacting the Pacific Northwest can also impact the northern part of California. Figure 5 shows the final frame of today's weather forecast model that shows the location of the high-pressure system north of Hawaii. California is highlighted with a box. The green areas are where precipitation is expected. The high-pressure system is far enough west that low pressure storm systems can move south around the east side of the high-pressure system over the Pacific Ocean. If the high-pressure system expands, those storms get pushed onshore up in Oregon leaving California dry. The shape of the high-pressure system suggests that this pattern will be stable through the month of March which limits the chance of a significantly above average March and the end of the wet season. Next update will be next week.



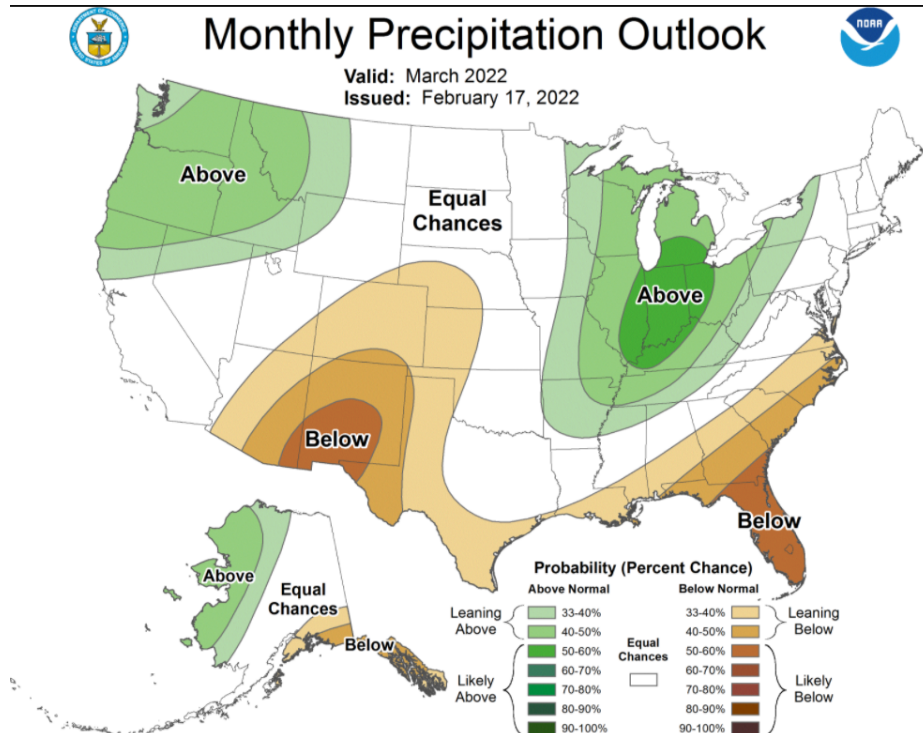


Figure 4. NOAA Climate Prediction Center March precipitation outlook.

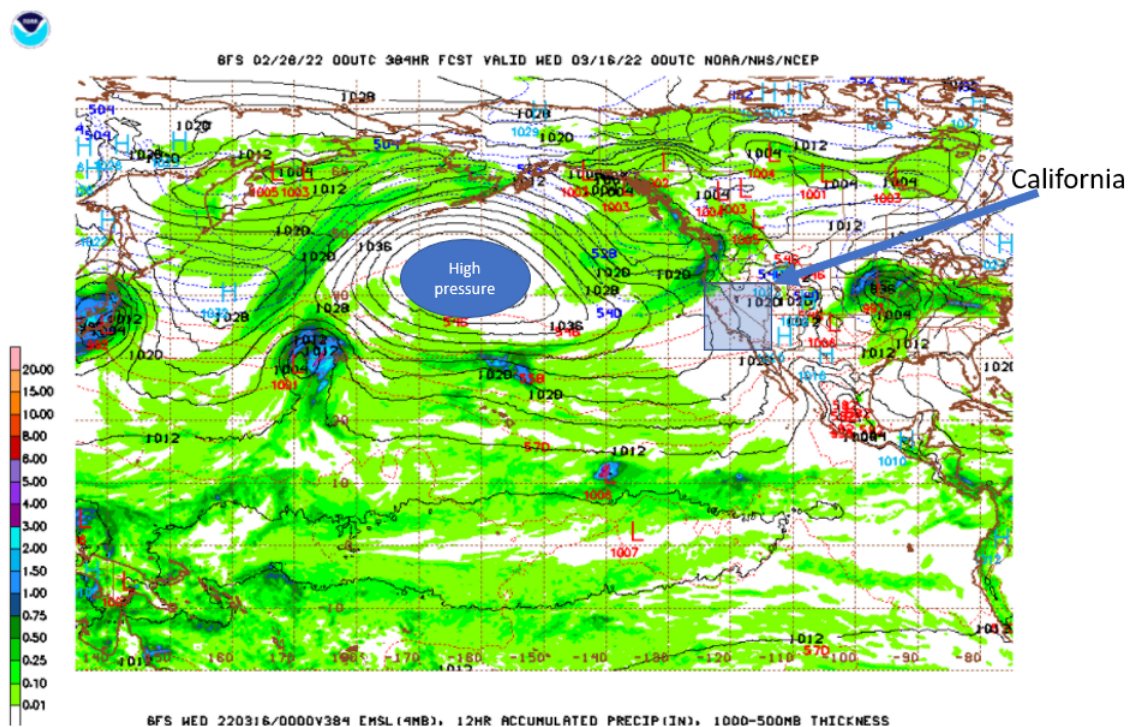


Figure 5. National Weather Service Global Forecast Model screen capture showing high-pressure system relative to California on March 16, 2022.